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Abstract: Every year many Chileans migrate, an increasing trend. Academic literature often highlights the roles of individual well-being and crime among important reasons for migration in general. We contribute to this literature by focusing on Chile. This investigation considers, with multiple years of a secondary dataset, the intention to migrate and, with a primary data sample, the post migration life of Chileans. We find that Chileans are more likely to migrate if they are less satisfied with life, have themselves or a family member been a victim of crime, are highly dissatisfied with their income, at least reasonably well-educated, self-employed and male. We also present tentative evidence that, for those who have migrated, being a victim of crime when in Chile is associated with greater life satisfaction in the host country. Policy implications are also presented, reflecting the desire of the Chilean government desire to slow this increasing trend of migration.

Keywords: Crime; Migration; Life Satisfaction; Chile; Latinobarometer

JEL Codes: F22; I31; N36

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1. Introduction

According to Sepúlveda and Espinoza (2013) one out of four of Chileans would leave the country to reside abroad permanently if they had the opportunity to do so. In other South American countries such as Argentina and Brazil, this desire to migrate permanently is much closer to the world's average: 12,3% and 11,3%, respectively. Prior research suggests that a main reason why Chileans migrate is in order to improve their job opportunities (Solimano, 2013). The lack of affordable education and the unreliable police force (Human Rights Watch, 2019) also have been asserted to play an important role when deciding to migrate. The Chilean Department of Foreign Affairs (2016) reports that Chilean emigration is mainly driven by better job opportunities (24.3%), family matters (21.5%) and by the search for a better quality of life (13.7%).

The Chilean National Institute of Statistics (2017) estimates over a million Chileans living abroad permanently by 2017, a proportion which represents about 5.8% of Chile's total population. Although Chile does not represent the highest share of South American migrants in the world, the number of the Chileans living abroad has increased by 79% since the last census in 2015. The United Nations (2019) has registered that the majority of Chilean migrants can be found in Argentina (33%), the United States (18%) and Spain (9%), but in recent years also countries like Australia (5%), Canada (4%) and France (4%) have become more common as destination countries.

This wave of migrants could be the product of recent migratory policies which have facilitated Chilean emigration, especially to countries in Europe and the United States. Information culled from various international embassies shows that in the past six years Chile has signed eleven new working-holiday programs, allowing young Chileans between 18 and 35 years old, to reside and undertake employment in a new country. Although these programs are intended for temporary residency, the length of stay can in some cases be extended - and even be changed to permanent residency. It is also worth mentioning that these programs are not exclusionary, meaning that a visa holder from one country can still apply to another country while being already in a program. This is particularly the case in European countries - in which for instance, a Chilean citizen living in France could at the end of her stay, apply for a new working holiday program in Germany and extend its stay in the European Union. Germany also allows them to change their temporary migratory status to a student visa, and eventually to permanent residency.

Another aspect for potential emigration from Chile is crime. Even though Chile seems to have a low homicide rate compared to other Latin-American countries (United Nations, 2018), these statistics often do not reflect day to day crimes such as trespassing, street assaults and domestic violence. The United Nations Office on Drugs and Crime (2014) places Chile as the third country in South America with the highest rate on these type of crimes. Our primary data also supports this, with 55% of the Chileans surveyed post-migration having been a victim of crime back in Chile. This causes Chileans to live with a pervasive fear of becoming a victim of crime. Indeed, the Inter-American Development Bank (2014) estimates that basically 4 out of 10 people in Chile are afraid of crime on a daily basis. Similarly, the National Institute of Statistics in Chile (2014) estimates 80% of the population believe that crime has increased in comparison to the previous year.

This substantial fear of crime, lack of reliable and accessible public services, and a substantial lack of adequate job opportunities, seem to have a significant negative impact on someone's overall life satisfaction. A key argument of this article is that this reduced life satisfaction promotes change, and movement, ultimately expressed by migration.[1] The next section, Section 2, discusses the literature regarding crime, migration, and life satisfaction and includes geographically relevant studies. Section 3 discusses the data in two parts: firstly, the secondary data about intention to migrate; and secondly, our own post-migration primary sample. Section 4 presents the results from regression analyses of these data sets, and Section 5 offers a concluding discussion.

2. Crime, Migration, and Life Satisfaction: A Literature Review

2.1 International Migration and Life Satisfaction

General economic indicators such as income have been seen to be too simplistic to demonstrate reasons for migration (Cai et al., 2014; Polgreen & Simpson, 2011; Nikolova & Graham, 2015). Thus, scholars have investigated life satisfaction as another key factor in international migration, seeking to answer whether it is the least or most satisfied people who intend to migrate or have already migrated (Ivlevs, 2015). This and the discussion below indicate that this can be a U-shaped relationship in some instances though, broadly, lower life satisfaction is regularly correlated with higher migration. A consequent question is what factors are involved in lowering life satisfaction in these instances? This has been thought of on a macro level, suggesting that the overall happiness of a country can be linked in two directions to migration; motivating citizens of unhappy countries to migrate and reducing the incentive to do the same for those in happy countries (Polgreen & Simpson, 2011). However, Otrachshenko & Popova (2014) suggest that life satisfaction acts a mediator between macro-level political and economic factors and an individual's intention to migrate. As a result, researchers have

[1] This argument about low or reduced life satisfaction leading to change was also made by Van Praag and Ferrer-i-Carbonell (2007) in the introduction to their important text on the empirical analysis of happiness.

sought to employ happiness and life satisfaction empirically, as well as to investigate further variables which may also be relevant, and thus offer reasons as to why unhappy people migrate.

Regarding migration intentions and well-being, Polgreen & Simpson (2011), for 84 countries between 1981 and 2004, uncovered a U-shaped relationship indicating that "people from very happy countries are likely to emigrate, as are people from very unhappy countries" (p.838). A similar relationship was found by Ivlevs (2015) with an analysis based on 35 countries in Europe and Central Asia. Furthermore, Ivlevs provides evidence that this is also the case for individuals: the least and most life-satisfied people are more likely to migrate. Whereas Lovo (2014), using Gallup World Poll data on 25 European countries, finds an association only with lower life satisfaction and intention to migrate. By relating the individual's choice to the characteristics of the most selected destinations, the author finds suggests that life satisfaction is a stronger indicator than GDP per capita or employment conditions when it comes to an individual's choice of country to migrate to. Similarly, Otrachshenko & Popova (2014), using Eurobarometer data covering 27 countries, find that migration is more likely when the individual is dissatisfied with life. Cai et al. (2014) find the desire to migrate to be lower for those with a high subjective well-being, using Gallup World Poll data across 154 countries from 2007-2012.

In research looking at the act of migration itself and the effect on individual life satisfaction, Olgiati et al. (2013) use Gallup World Poll data from 16 high-income countries (in Europe and North America) to assess this through the indicator of rising incomes. The authors' findings vary by country, but only in a few (Australia, Belgium, the Netherlands and Sweden) do they find that increased income boosts life satisfaction for migrants and in certain countries (US, France and Finland) they find a negative association.

Focusing on migrated persons from transition countries, Nikolova & Graham (2015) find that migration does enhance subjective well-being more than any concomitant increase in income. One of their conclusions is that the subjective well-being gain is larger for migrants from the EU-10 (the 2004 enlargement) compared with the rest of the EU. Frank et al. (2016) draw similar conclusions using data from Canada, concluding that immigrant groups have a higher life satisfaction than compatriots in their source country, as well as being at a comparable level to native-born Canadians. Furthermore, Stillman et al. (2015) assess migration lottery entrants from Tongo to New Zealand, to compare 'winners' who migrated to New Zealand with 'losers' who were left behind. Across the sample size of 101 households (out of 302 in the migration lottery period of 2002-2005), across two waves of surveying, the authors find that mental health improves but happiness declines, suggesting that unmet expectations were a factor. The next subsection again focuses on migration and life satisfaction, though in the Chilean and South American context.

2.1.1 Migration and Life Satisfaction (South America/Chile)

Regarding Latin America and making use of all 18 countries in the Latinobarometer, Graham & Markowitz (2011) find that potential migrants are less happy than the overall citizen average, even when having a higher income, and label such individuals as 'frustrated achievers' who have an increased will to migrate (Ibid.; Graham, 2016). Similar results were also observed by Graham & Nikolova (2018) using a statistical matching procedure to "pair immigrants with similar native-born individuals" (p. 94), finding that there is not necessarily an improvement in life satisfaction post-migration. Also using Latinobarometer data across its 18 countries, Chindarkar (2014) found life satisfaction to be a "significant driver" of migration intention, with the association stronger for more highly educated persons.

Angel & Angel (1992) studied Hispanic elderly people in the US and their social interactions, with their sample including a number who had migrated in their youth. The authors, although not focusing on Chilean migrants, found that difficulties associated with immigration reduced mental health in Cuban Americans, Mexican Americans and Puerto Ricans. In the context of Latin American migrants in Spain, Herrero et al. (2011) focused on social integration, with the conclusions suggesting that subjective well-being had a statistically significant positive relationship with social integration in the community.

In summary, the intention to migrate is mostly associated with lower life satisfaction. Despite migration possibly being seen as a solution to this lower life satisfaction, post migration studies indicate that migration is no guarantee to raise life satisfaction – in fact in some instances it has an adverse effect. As the introduction showed, crime and the fear of crime is an aspect of daily life for Chileans. The next subsection considers crime and life satisfaction, before a later subsection discusses these two factors in combination with migration.

2.2. Crime and Life Satisfaction

Within the academic literature linking crime and life satisfaction, crime can refer to a wide variety of offences and is commonly examined directly (victims of crime) and indirectly (fear of crime) in terms of its effects on individuals and communities. Our brief review discusses relevant literature from around the world and then literature which specifically focuses on the Latin American context.

An array of psychological effects of crime victimization have been discussed (Powdthavee, 2005), including a negative impact on role functioning across different spheres of daily life and in turn reducing well-being (Hanson et al., 2010). Moreover, it has been suggested that there may be a differentiation between victims of violent crime and victims of non-violent crime – with the latter less likely to have their life satisfaction impacted (Hanson et al., 2010). Thus, it may be the case that it is the severity determining the effect – but this theory could then be used to suggest that fear of crime

will not have an effect on life satisfaction. Yet, it is also suggested that higher crime rates would lead to an increased fear of crime (Hanslmaier, 2013) and thus the consequent question arises of whether this has a knock-on effect to life satisfaction as well. The literature is divided on whether fear of crime alone will negatively impact life satisfaction and therefore highlight this an understudied area to be further empirically investigated (Alfaro-Beracoechea et al., 2018; Cohen, 2008).

Regarding experiences of crime or crime victimization, literature focuses on crime in a broad sense but also specific types of crime. Hanson et al. (2010) provide an in-depth summary of this, demonstrating that while many studies have found a negative association between experiences of crime and subjective well-being, there are also multiple that have not. Using Afrobarometer data from 20 African countries, Sulemana (2015) found a negative link between general crime victimization and life satisfaction for females and not males, though physical assault was found to affect both genders negatively. In the specific case of Malawi, Davies & Hinks (2010) found that personal physical attacks had a negative relationship with happiness which was more pronounced for male victims. Powdthavee (2005) found that in South Africa, subjective well-being is substantially lower for crime victims regardless of gender, however with fear of crime for non-victims it was females who were more affected. Cohen (2008) found that being the victim of a burglary had a significant negative impact on life satisfaction in the US, with Spencer & Liu (2019) found a negative association between crime victims and happiness in the context of Jamaica. Furthermore, Cheng & Smyth (2015) used data from crime victims in China to find that both crime victims and acquaintances of victims experience a negative impact on happiness. Michalos & Zumbo (2000) found that the impact on life satisfaction was "relatively little" even with victims of crime, using data from a city in British Colombia, Canada.

Within the prominent literature on fear of crime, Adams & Serpe (2000) used data from the Los Angeles area to find that fear of crime is negatively associated with life satisfaction but that this is lower in suburban residents. Furthermore, a well-cited study using data from civil servants in London found that fear of crime was associated with poorer mental health, including subjective measures (Stafford et al., 2007). In contrast, Franc et al. (2012) found "relatively little association" with fear of crime and life satisfaction in Croatia, while Hanslmaier (2013) used nationwide representative data in Germany and found that, while fear of crime did reduce life satisfaction, it was only local crime which increased fear and not county level crime. In the context of New Zealand, Fleming et al. (2016) investigating crime and life satisfaction alongside green spaces, concluding that while green space improves life satisfaction, this gain can be eradicated by fear of crime.

In terms of larger cross-country studies, using European Social Survey data, Piper (2015) finds that there is a happiness penalty associated with living in European capital cities; fear of crime was shown to be a prominent factor, particularly in the cases of Athens, Berlin and Vienna. Brenig & Proeger

(2018) also use data from the European Social Survey, finding fear of crime to be associated with lower subjective well-being. Similarly, in an investigation using Afrobarometer data, from Sulemana (2015) finds only a correlation for women between fear of crime and life satisfaction. The following subsection discusses similar studies in the Latin American context.

2.2.1 Crime and Life Satisfaction (South America/Chile)

With regard to experiences of crime, Londoño et al. (2019) analysed Americas Barometer data across the whole of Latin America and found a negative association between "being a victim of a crime and an individual's life satisfaction". The authors suggested that it is the personal experience of crime rather than a country's high homicide rates which impacts life satisfaction, although the extent to which varies by country. In the case of Chile, the findings show the effect to be -2.7 percentage points, positioning it roughly in the middle of Latin America in terms of impact by country (p. 16). Rojas (2020) points to similar overall conclusions on victimisation for Latin America, adding that the impact is especially large for women. Further research on crime victims has found negative relationships between being a crime victim and individual life satisfaction: in Medellin, Colombia, with robbery having the greatest effect (Medina & Tamayo, 2012); in Buenos Aires, Argentina, with victims of street crime or robbery (Muratori & Mercedes Zubieta, 2013); while in a study based in Chile the only type of victims to show a negative association were those who experienced physical aggression (Martinez-Zelaya et al., 2016). Furthermore in the context of Chile, although not a crime in the legal sense, the link between school bullying and life satisfaction was explored by Varela et al. (2019). The authors found that peer victimisation can negatively affect life satisfaction and in turn reduce the victims feeling of communal support.

Regarding fear of crime, Alfaro-Beracoechea et al. (2018) undertook a meta-analysis of 12 previous studies, concluding that Latin America showed the strongest effect for fear of crime on subjective well-being compared with the studies they analysed from North America, Europe and Oceania. Rojas (2020) states that fear of crime is widely spread in Latin America and that this does have a negative impact on overall well-being, and Muratori & Mercedes Zubieta (2013) found fear of crime to also be negatively associated with life satisfaction in Argentina. Martinez-Zelaya et al. (2016) using data from university students in the city of Concepción in Chile, found fear of crime to lead to a lack of trust and feelings of insecurity, which were more profound in women.

Thus it seems clear that there is a strong association between being a victim of a crime and lower happiness or life satisfaction, both around the world and in Latin America. Multiple studies using data from varied geographic areas in different points in time find this association, both for crime victims in general and for specific crimes such as assault or robbery. We now turn to the link between crime, migration and life satisfaction, at present a rather under-researched area of enquiry.

2.3 Crime, Migration and Life Satisfaction

Research considering all three concepts is sparse, and some triangulation is necessary. For example, in the context of Latin America, Wood et al. (2010) use Latinobarometer data from 17 countries to show that among those individuals who had been a direct victim or had family members who had been a victim of a crime, the probability was 30% higher of 'seriously considering' migration to the US than those who had not been a crime victim. However, the explicit link to well-being in the individual's reasoning was not touched upon in this research. In an investigation of migration and life satisfaction of those left behind, Cárdenas et al. (2009) consider issues of personal security by using Latinobarometro questions on feeling of safety, experiences of theft and mugging, and gang presence. They find that personal insecurities are negatively associated with life satisfaction, but to a much lesser extent than what they call nutritional insecurities, which is basically worries about getting enough food to eat. Cárdenas et al.'s research therefore shows a possible explicit link between crime, life satisfaction and migration.

Among the consequences of reduced life satisfaction in crime victims of Buenos Aires, Muratori & Mercedes Zubieta (2013) found an increased willingness to migrate. In general, it seems somewhat known that crime and life satisfaction are negatively connected, that crime and migration are connected, and that (overall) low life satisfaction and migration are connected. There is clearly a need for more evidence linking all three conepts. Thus, adding to this, our pre-migration analysis considers separately and together crime, and individual life satisfaction, on the intention to migrate, empirically linking these concepts. Tentative post migration evidence is also provided in the next two sections too, which cover the data used in and the results from our analysis respectively.

3. Data and Method

For our empirical analysis of crime, migration and life satisfaction we make use of two datasets, one primary and one secondary. For the pre-migration analysis we use multiple waves of the Latinobarometer. Due to a lack of secondary data, the post-migration analysis uses primary data generated from an online questionnaire. This section discusses both, including a focus on key descriptive statistics, and details about the methods used.

3.1 Pre-migration.

The Latinobarometer is one of the most popular sources for single and multi-country analyses of individual well-being in the Latin American region, (for recent studies see Ahmed Lahsen & Piper, 2019, Macchia & Plagnol, 2019, Piper, 2019, Rojas, 2020).[2] In our analysis, we rely on all of the available data from Chile for the years 2004 until 2015. This is repeated cross section data, covering

[2] See www.latinobarometro.org for more details.

about 1,000 people in each wave. Due to logistical constraints, the Latinobarometer has been reported to have about 70% coverage for Chile (Graham, 2012). The dataset contains useful socio-economic information, as well as questions relating to our main interests. Individuals are asked if they intend to migrate, if they or a family member have ever been a victim of crime, and how satisfied they are with their life. The first two variables have yes and no as options, and so are dummy variables in the analysis below, whereas life satisfaction is answered on a four point scale from 1 to 4. Descriptive statistics for some key variables are presented in Table 1, distinguished by whether the respondent expresses an intention to migrate or not.

Table 1: Data description, socioeconomic variables.

	Intends to migrate		**Does not intend to migrate**	
	Mean	Std. deviation	Mean	Std. deviation
Life Satisfaction	2.82	0.8	2.83	0.75
Crime victim - self or family	0.44	0.5	0.33	0.47
Income				
Sufficient	0.1	0.3	0.06	0.24
Just sufficient	0.47	0.5	0.44	0.5
Insufficient	0.33	0.47	0.4	0.49
Very insufficient	0.1	0.3	0.09	0.29
Socioeconomic level				
Very good	0.06	0.24	0.03	0.18
Good	0.42	0.49	0.3	0.46
Not bad	0.41	0.49	0.5	0.5
Bad	0.11	0.31	0.15	0.36
Very bad	0.01	0.07	0.01	0.11
Female	0.44	0.5	0.55	0.5
Marital status				
Partnered or married	0.51	0.5	0.59	0.49
Single	0.36	0.48	0.26	0.44
Separated, divorced or widowed	0.12	0.33	0.14	0.35

Education				
Illiterate	0.01	0.09	0.02	0.14
Incomplete primary	0.06	0.23	0.17	0.38
Complete primary	0.05	0.21	0.77	0.27
Incomplete secondary	0.14	0.23	0.18	0.3
Complete secondary	0.4	0.49	0.37	0.48
Incomplete higher	0.15	0.36	0.08	0.26
Complete higher	0.2	0.4	0.11	0.32
Labour force status				
Employed	0.43	0.5	0.36	0.48
Self-employed	0.2	0.4	0.15	0.35
Unemployed	0.06	0.24	0.04	0.21
Retired	0.05	0.21	0.12	0.33
Not in labour market	0.14	0.35	0.25	0.43
Student	0.13	0.33	0.08	0.27
Age	37.73	14.37	44.98	

Note: Latinobarometer data (2004-2015). All variables are dummy variables apart from life satisfaction and age.

Many of these mean values indicate some differences between those who intend to migrate from Chile and those who do not. Those intending to migrate are younger, more satisfied with their income, seem to have a better socio-economic level (as judged by the interviewer), and more likely to be active participants in the labour market (employed, self-employed) or unemployed. They are also more likely to be better educated too, suggestive of a future 'brain drain'. Of particular importance for our investigation are the figures for crime and life satisfaction. Those who intend to migrate are, on average, more likely to have been a crime victim themselves or know someone in their family who has. The averages for life satisfaction are almost exactly the same for both groups.

This last outcome does not necessarily mean that life satisfaction has no association with an intention to migrate, however. As the literature review made clear, low life satisfaction is often related to a wish to migrate. Many of the potential confounding factors that are more prevalent among the intend to migrate group listed just above are also often found to be associated with higher well-being (i.e. income, socio-economic level, labour force participation and higher education). Our regression analysis will address by this checking if, when the higher average income sufficiency, labour force participation, or education, age and other factors are all taken into account, life satisfaction is negatively associated with the intention to migrate. To gain some idea about the relationship between intention to migrate, life satisfaction and crime, we run three regressions. On the left-hand side of the equation to be estimated is intention to migrate, and on the right-hand side, regression one includes

life satisfaction but not crime; regression two includes crime but not life satisfaction; and regression three includes both life satisfaction and crime. Given that our dependent variable, intention to migrate, is dichotomous and that the data is repeated cross-section data, we undertake logistic regression analysis presenting both the obtained coefficients for the variables of interest and all controls except for the included year dummy variables. Furthermore, we present the marginal effects of the key variables of interest. The results can be seen in section 4 below.

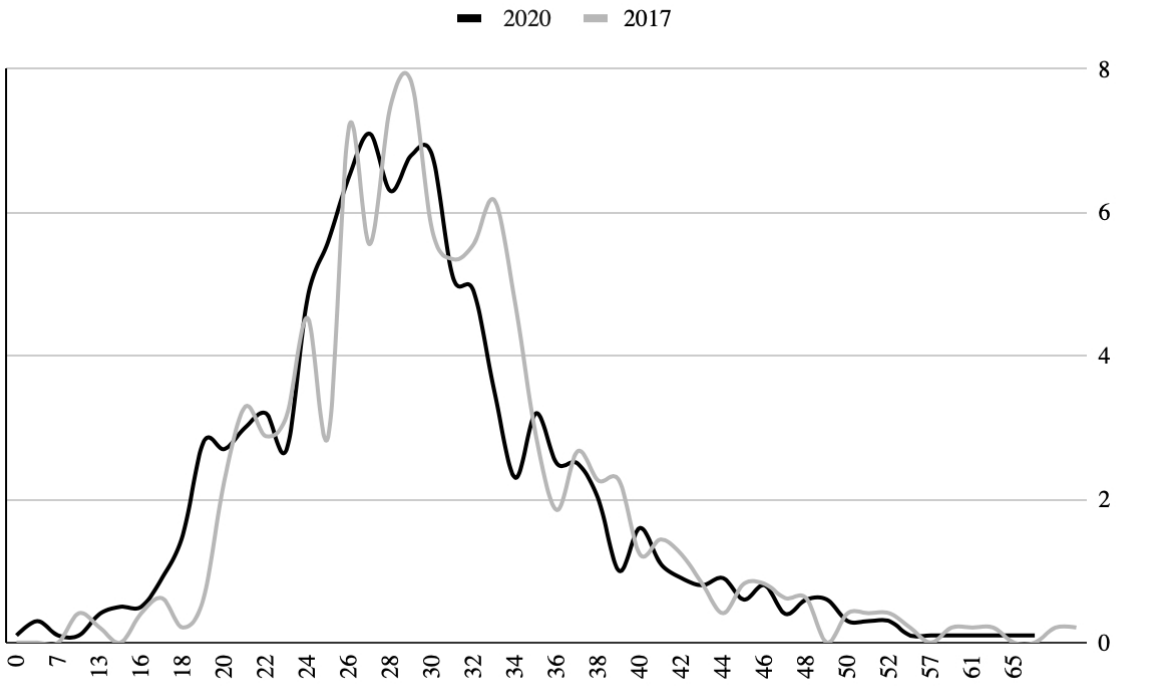
3.2 Post-migration

As mentioned in the section introduction we rely on primary data, a convenience sample was undertaken with responses collected via an online survey in 2017 and again in 2020, for our post-migration information. Survey respondents were elicited on webpages for groups of Chileans living abroad, for example “Chilenos en Alemania”, “Chilenos en Francia" and “Chilenos en España”. The questionnaire used contains 18 structured questions (see the appendix). The first part of the questionnaire measures socio-demographic factors including respondent age, gender, marital status, country of residence, years living abroad and the employment status. The second part of the questionnaire focuses on life satisfaction. We directly ask individuals to rate their life satisfaction before and after migration. Other questions assessed individual satisfaction with education, health care, security and public administration, both in Chile and in the subsequent post-migration host country. Importantly, a question about criminality was also asked: was the respondent a victim of crime when living in Chile?

During the five weeks when the questionnaire was first online, covering mainly October 2017, valid responses were collected from 486 individuals who live in 19 different countries, with the majority now residing in Spain, France the United Kingdom and the United States. More recently, the questionnaire was online for five weeks in 2020, a period of time when much of the world was suffering from the COVID-19 pandemic, and lockdowns were a part of the everyday life of our respondents. In this second sample, responses were collected from 390 individuals living in 15 different countries, with the three most important (by frequency) being Spain, France and Germany. Due to the substantial contextual differences between these two time periods, we consider both years separately as well as together in the analysis.[3] Descriptive statistics are presented just below, following a graph (Figure 1) which indicates the age in which individuals in our sample migrated and a table listing reasons for migration (Table 2). As can be seen, most people (>95%) in our sample migrated as adults, and most people migrated for either academic or family reasons. Twenty three percent of our sample stated life satisfaction as their main reason to leave.

[3] We do not claim much generalisability from our post-migration work, and particularly not from the 2020 sample (given the pandemic context). Instead, we offer the post-migration work as secondary to the pre-migration work, though recognising its value given the relative scarcity of post-migration data.

Figure 1: Age at migration, post-migration sample.



Note: X age of migration, Y relative percentage.

Table 2: Descriptive statistics.

	2017	2020	Full Sample	Percent	Cumulative
Reason to migrate					
Academic reasons	174	52	226	0.29	0.29
Family reasons	134	84	218	0.28	0.57
Life satisfaction	82	94	176	0.23	0.79
Work related reasons	46	24	70	0.09	0.88

Income inequality in Chile	20	42	62	0.08	0.96
Exile	17	5	22	0.03	0.99
Other	4	2	6	0.01	1.00
Total	477	303	780		
Marital Status					
Married	240	161	401	0.51	0.51
Single	203	108	311	0.40	0.91
Divorced	43	25	68	0.09	1.00
Widower	0	1	1	0.00	1.00
Total	486	295	781		
Friends or family already abroad?					
No	248	153	401	0.51	0.51
Yes	238	151	389	0.49	1.00
Total	486	304	790		
Victim of a crime in Chile					
Yes	263	184	447	0.57	0.57
No	223	118	341	0.43	1.00
Total	486	302	788		
Employment status					
Employed	217	111	328	0.42	0.42
Unemployed	64	71	135	0.17	0.59
Student	121	52	173	0.22	0.81
Self-employed	58	55	113	0.14	0.95
Retired	22	12	34	0.04	1.00
Total	482	304	786		1.00

Respondents report their marital status, whether they already had friends and family abroad, how religious they are, their satisfaction with various aspects of life (including overall life satisfaction in the host country as well as Chile), and if they have ever been a victim of crime in Chile. The table above indicates that a majority of Chileans (about 56%) have been a victim of a crime before migration. Half of the sample reported having family or friends already abroad. In terms of employment, we see the majority is currently employed (41%) or undertaking some type of studies (22%), and only a small part – about 18% – is unemployed or retired.

Table 3: Change in life satisfaction of Chileans abroad.

	2017	2020	Full Sample	Percent	Cumulative
-4	2	0	2	0.003	0.003
-3	2	1	3	0.004	0.007
-2	10	4	14	0.019	0.025
-1	44	52	96	0.127	0.152
0	112	40	152	0.201	0.354
1	138	50	188	0.249	0.603
2	91	63	154	0.204	0.807
3	50	36	86	0.114	0.921
4	21	39	60	0.079	1.000
Total	470	285	755		

A majority of Chileans (about 64%) seem to have increased their levels of satisfaction in their new country, 20% report no change and 15% of the sample seem to be unhappier than they were in Chile. This information is the dependent variable for our regression analysis, when we try to learn something about what is positively associated with this life satisfaction change, what is negatively associated, and what has no statistically significant association. However, due to the nature of our data (a somewhat small sample, a convenience sample, and only online in particular groups, and further limitations which are discussed below) any conclusions from the post-migration analysis can only be treated as tentative.

4. Results

4.1 Pre-migration Results

Table 4 presents results from the logistic regression analysis in three columns, differentiated by how they consider life satisfaction and crime. Column 1 includes life satisfaction, but not crime; column 2 reverses this, and column 3 contains them both. A discussion of the results follows the table.

Table 4: Crime and life satisfaction.

	(1)*	-2	-3
Life satisfaction	-0.157***	-	-0.193***
	(-0.04)		(-0.043)
Crime victim	-	0.370***	0.397***
		(-0.059)	(-0.063)
Income: sufficient	0.114	0.088	0.107
	(-0.106)	(-0.107)	(-0.115)
Income: insufficient	0.062	0.075	0.035
	(-0.068)	(-0.068)	(-0.074)
Income: very insufficient	0.431***	0.564***	0.448***
	(-0.114)	(-0.114)	(-0.125)
Socioeconomic level: very good	0.592***	0.557***	0.656***
	(-0.14)	(-0.142)	(-0.151)
Socioeconomic level: good	0.370***	0.390***	0.396***
	(-0.068)	(-0.069)	(-0.074)
Socioeconomic level: bad	-0.067	-0.123	-0.108
	(-0.098)	(-0.103)	(-0.109)
Socioeconomic level: very bad	-0.602*	-0.534	-0.828*
	(-0.365)	(-0.413)	(-0.481)
Female	-0.348***	-0.319***	-0.317***
	(-0.066)	(-0.066)	(-0.071)
Have partner or married	-0.007	-0.08	-0.068
	(-0.083)	(-0.084)	(-0.09)
Separated, divorced or widowed	0.466***	0.346***	0.388***
	(-0.114)	(-0.115)	(-0.124)
Age	-0.012	-0.011	-0.017

	(-0.013)	(-0.014)	(-0.015)
Age squared	0	0	0
	0	0	0
Education: incomplete primary	0.336	0.05	0.408
	(-0.382)	(-0.323)	(-0.409)
Education: complete primary	0.643*	0.215	0.611
	(-0.388)	(-0.333)	(-0.418)
Education: incomplete secondary	0.816**	0.51	0.872**
	(-0.376)	(-0.315)	(-0.402)
Education: complete secondary	1.116***	0.670**	1.109***
	(-0.373)	(-0.312)	(-0.399)
Education: incomplete high school	1.627***	1.219***	1.641***
	(-0.382)	(-0.323)	(-0.409)
Education: complete high school	1.471***	1.088***	1.532***
	(-0.378)	(-0.318)	(-0.405)
Self-employed	0.289***	0.254***	0.282***
	(-0.081)	(-0.082)	(-0.088)
Unemployed	0.057	0.106	0.075
	(-0.13)	(-0.133)	(-0.144)
Retired	-0.019	-0.114	-0.001
	(-0.162)	(-0.165)	(-0.174)
Not in labour market	-0.117	-0.232**	-0.166
	(-0.097)	(-0.1)	(-0.107)
Student	-0.221*	-0.408***	-0.276**
	(-0.122)	(-0.124)	(-0.133)
Constant	-1.868***	-2.012***	-1.807***
	(-0.481)	(-0.421)	(-0.52)
Observations	10,502	10,439	9,237

*Note: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, Base categories: just sufficient income; not bad socioeconomic level; single; illiterate; employed. Latinobarometer data 2006-2015. Both estimates include year and country dummy variables.*

Table 4 indicates that individuals are more likely to register an intention to migrate if they think their income is less than sufficient, when they are self-employed, are educated, have experienced a

partnership breakdown and male. As for our key variables of interest, we find that low life satisfaction is associated with an intention to migrate, as is being a crime victim. When controlling for being a crime victim, the size of the obtained coefficient for life satisfaction is greater; this is the case when expressed the other way around too: when life satisfaction is controlled for, the coefficient obtained being a crime victim is greater. The size of these changes seem to indicate that low life satisfaction and being a crime victim are largely (though not wholly) independent in terms of their association with intention to migrate. To say more about the size of effects, we now present the post-estimation marginal effects. The table presents the marginal effects calculated at the means, though the effects are almost the same if the average marginal effect is calculated.

The marginal effects confirm the earlier discussion with people more likely to intend to migrate being less satisfied with life, have experience of crime, have a good or very good (interviewer rated) socio-economic level, have had a partnership breakdown (either through separation, divorce or widowhood, all of which are combined in the Latinobarometer dataset), are generally better educated, self-employed or students and more likely to be male. That individuals who have a very bad socio-economic level are negatively associated with an intention to migrate (though when significant - columns one and three - this barely crosses the ten percent threshold), may represent a financial inability to leave the country. In contrast, individuals at a good or very good level are more likely to indicate an intention to migrate and perhaps have the means to do so.

Thus crime and life satisfaction are associated with an intention to migrate in the expected way: a change in the self-rating of life satisfaction from being very satisfied to quite satisfied, or quite satisfied to not very satisfied and so on, is associated with a two percent increase in the likelihood to state an intention to migrate ceteris paribus; also ceteris paribus, either the individual or someone in their family being a victim of crime is associated with a four percent increase in the likelihood of intending to migrate. The last column indicates little mediation for being a crime victim (low life satisfaction) intention to migrate relationships when life satisfaction (crime victim) is also taken into account.[4] This is a finding with policy implications, as discussed these figures (2%, 4%) may seem small when we compare them with the education percentages (often above 10%), but it must be remembered that the education reference category is being illiterate. Given the similarity of the marginal effects for life satisfaction and crime between the regressions when they are included separately (columns 1 and 2 respectively) and the one when included together (column 3), low life satisfaction and being a crime victim seem to have largely independent associations with Chilean's intention to migrate. This is a result discussed further in section 5.

[4] Further estimates (not shown) demonstrate a significant though minor negative relationship between an individual or a family member being a crime victim and life satisfaction.

Table 5: At means, marginal effects, Chile, Latinobarometer (2004-2015).

	-1	-2	-3
Life satisfaction	-0.017***	-	-0.020***
Crime victim	-	0.039***	0.041***
Income: sufficient	0.012	0.009	0.011
Income: insufficient	0.007	0.008	0.003
Income: very insufficient	0.047***	0.060***	0.047***
Socioeconomic level: very good	0.064***	0.059***	0.068***
Socioeconomic level: good	0.040***	0.042***	0.041***
Socioeconomic level: bad	-0.007	-0.013	-0.011
Socioeconomic level: very bad	-0.066*	-0.057	-0.086*
Female	-0.038***	-0.034***	-0.033***
Have partner or married	-0.001	-0.009	-0.007
Separated, divorced or widowed	0.051***	0.037***	0.040***
Age	-0.001	-0.001	-0.002
Age squared	0	0	0
Education: incomplete primary	0.037	0.005	0.042
Education: complete primary	0.070*	0.023	0.064
Education: incomplete secondary	0.089**	0.054	0.091**
Education: complete secondary	0.122***	0.072**	0.115***
Education: incomplete high school	0.178***	0.130***	0.171***
Education: complete high school	0.161***	0.116***	0.159***
Self-employed	0.032***	0.027***	0.029***
Unemployed	0.006	0.011	0.008
Retired	-0.002	-0.012	0
Not in labour market	-0.013	-0.024**	-0.017
Student	-0.024*	-0.043***	-0.029**

4.2 Post-migration Results

As section 3.2 indicates, and the limitations of the next section emphasise, the results of this section should be considered tentative only. In lieu of good existing secondary data about the life (including crime and well-being) of Chileans post-migration we collected our own. With this caveat, here the results are discussed for the change in life satisfaction between living in Chile and living in the host country. Again, given the very different contexts between 2017 and 2020, the years of our data collection, we present three columns of results: 2017; 2020; and both combined. As can be seen in the

table, most of our right-hand-side variables were insignificant demonstrating no statistical association with the change in life satisfaction.

Table 6. Change in life satisfaction.

	2017	2020	full sample
Earn more in host country	0.010	0.026	0.022
	(0.016)	(0.040)	(0.015)
Years abroad	-0.007	-0.018	-0.014
	(0.013)	(0.019)	(0.010)
Unemployed	0.012	-0.285	-0.130
	(0.203)	(0.263)	(0.158)
Student	-0.543***	-0.476	-0.523***
	(0.182)	(0.312)	(0.160)
Self-employed	0.022	0.274	0.124
	(0.210)	(0.284)	(0.168)
Retired	-0.668	0.170	-0.428
	(0.414)	(0.778)	(0.375)
Male	0.150	0.146	0.181
	(0.136)	(0.215)	(0.116)
Age	-0.046	0.017	-0.022
	(0.042)	(0.053)	(0.031)
Age squared	0.000	-0.000	0.000
	(0.001)	(0.001)	(0.000)
Married	-0.043	-0.606**	-0.278**
	(0.147)	(0.237)	(0.126)
Divorced	-0.137	-0.772*	-0.408*
	(0.259)	(0.418)	(0.224)
Number of children	0.041	0.038	0.042
	(0.053)	(0.109)	(0.049)
Years of education	0.013	-0.067***	-0.009
	(0.014)	(0.025)	(0.012)
A victim of crime in Chile	0.304**	0.224	0.292***
	(0.131)	(0.203)	(0.112)

Based on these results, only two variables seem to matter in 2017. Chilean students are less happy abroad than in Chile. This may relate to disappointments, or expectations not met, when abroad; it may reflect difficult adjustments to another country's system of higher education and the associated teaching and learning; it may also be a reflection of how we collected our data. This latter possibility would likely be the case if homesick students (and other individuals) were more likely to be spending time on host country specific expat online groups than those better integrated. We also find that being a victim of crime in Chile is positively associated with the change in life satisfaction from living in Chile to living in the host country. In 2020, these variables are insignificantly different from zero and instead the more an individual is educated the less relatively happy they are in their new country. Furthermore, being married is associated with less life satisfaction in the new country than in Chile. It might simply be that, in 2020, in the first lockdown, all bets were off - so to speak. Again, we emphasise the tentative nature of these post-migration results and call for more research and better data in section 5.

5. Concluding Discussion

In recent years, Chileans are emigrating from Chile in increasing numbers. The Chileans leaving or intending to leave are better educated than those that do not intend to leave, raising worries of a brain drain. Given the substantial and largely independent findings that crime and low life satisfaction both contribute to Chileans desire to migrate, two straight forward policy suggestions can be put forward. Authorities in Chile can work towards enhancing both crime prevention and improving the life satisfaction of Chileans, two possible strands of activity that may not 'crowd each other out' when it comes to decreasing Chileans' intention to migrate.

Our analysis has some limitations, which come from the data used for both the pre- and post-migration part of the investigation. The pre-migration data, being repeated cross-sections, does not permit the consideration of potentially important unobserved heterogeneity (I.e. individual fixed effects); also a causal path between crime and intention to migrate, or low life satisfaction and intention to migrate could not be found because of the data even if the literature review lends some support to causal relationships. The crime variable may also hide some nuance: individuals respond to a crime, and the nature of the crime is unknown. When the crime occurred may be a factor, particularly given recency bias, although this is unknown as well. Income in the Latinobarometer, the pre-migration dataset, is subjective with individuals choosing how they feel about their income rather than an amount being known.

The post migration dataset problems have been mentioned above and are not repeated here. Instead, we call for more data on individuals who have migrated. How migrants settle, or not settle, in their host country, is an important topic. Life satisfaction, job satisfaction and other domain satisfactions

can be useful in learning how migrants have integrated and where their problems lie. Datasets do exist with migrant data, for example the German Socioeconomic Panel (and see Bijedic and Piper 2019 for an assessment of the job satisfaction of first and second generation migrants in Germany), though data specialising in migrants from a particular country is rare. If countries can regularly collect data from individuals who have migrated from their country, things can be learned and potential future brain drains halted.

Our findings support the literature on migration and life satisfaction which demonstrated many instances of a negative association between the two on the level of individual persons: such as Lovo, (2014), Otrachshenko & Popova (2014), Cai et al. (2014), or in the case of Latin America, Chindarkar (2014), Graham & Markowitz (2011), Graham & Nikolova (2018). Our findings also support literature which found a negative association between being a victim of a crime and life satisfaction: such as Sulemana (2015), Davies & Hinks (2010), Powdthavee (2005), Spencer & Liu (2019), or in the case of Latin America, Londoño et al. (2019), Rojas (2020) Medina & Tamayo (2012). In this sense our findings offer a useful addition in one direction to the literature which appeared divided on whether there was an association (Alfaro-Beracoechea et al., 2018; Hanson et al., 2010).

However, our findings do not provide any clear evidence of an association between being a victim of a crime, having lower life satisfaction and migrating. Rather, as suggested above, these two aspects have independent associations with life satisfaction. If the Chilean government want to reverse the increasing trend of Chileans migrating, policy makers could focus on both reducing the levels of crime in their country and at the same time focusing on improving the well-being of the citizens: it seems that both acts together would not result in much 'crowding out' in terms of reducing the intention to migrate.

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Appendix A: Questionnaire (English Version)

Encuesta de Chilenos en el Extranjero

Survey of Chileans Abroad

Part 1: Sociodemographic data

1.	Were you born in Chile?	o Yes o No
2.	Country of residency:	_____
3.	Years living in this country:	_____
4.	Do you need a visa to reside in this country?	o Yes o No
5.	Gender:	o Male o Female
6.	Age:	_____
7.	Marital status:	o Single o Married o Divorced o Widow
8.	How religious are you?	o 0 Not religious at all o 1 Nor much religious o 2 Religious o 3 Very religious
9.	Number of children:	_____
10.	Years of education:	_____
11.	Employment status:	o Student o Employed o Self employed o Unemployed o Retired
12.	My current income is higher than in Chile:	o Yes o No
13.	My current income allows me to buy more than in Chile.	o Yes o No

Part 2: Life satisfaction

14. Please rate your satisfaction with the following categories in Chile

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied
Life in general	-2	-1	0	1	2
Education	-2	-1	0	1	2
Public administration	-2	-1	0	1	2
Environment	-2	-1	0	1	2
Health care	-2	-1	0	1	2
Accessibility to services	-2	-1	0	1	2
Security	-2	-1	0	1	2

15. Have you ever been a victim of a crime in Chile? **O** Yes **O** No

16. Please rate your satisfaction with the following categories in your new country

	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied
Life in general	-2	-1	0	1	2
Education	-2	-1	0	1	2
Public administration	-2	-1	0	1	2
Environment	-2	-1	0	1	2
Health care	-2	-1	0	1	2
Accessibility to services	-2	-1	0	1	2
Security	-2	-1	0	1	2

17. What was the reason for your migration?

O Studies

O Family reasons

O Life satisfaction

- o Work related reasons
- o Income inequality
- o Exile
- o Other

18. Did you already have friends or family living in the destination country?

o Yes o No